

**DRUG PRESCRIBING PATTERN AMONG POSTNATAL INPATIENTS ADMITTED IN
THE DEPARTMENT OF OBSTETRICS AND GYNECOLOGY IN A GOVERNMENT
TERTIARY CARE HOSPITAL**

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ABSTRACT

Background: During delivery, drugs being prescribed cause concerns due to their harmful effects on lactation as well as potential adverse reactions on the mother. Irrational use of drug is a huge worldwide problem. Medical abuse usually happens due to lack of abundant information on the use of drugs after delivery so, the aim of the study is to evaluate the prescribing pattern of drugs among postnatal inpatients in the Obstetrics and Gynecology Department. **Methods and Methodology:** A cross-sectional (record based) study was conducted in OBG Department at MIMS Teaching Hospital, Mandya. Patients who were satisfying the inclusion criteria will be enrolled into the study for the period of six months. Totally 200 cases were collected. The patient data will be collected from medical records of inpatients of Obstetrics and Gynecology Department. **Results:** Out of 200 cases age group between 20-25 years 96 (48%) are more admitted in OBG department. Among the cases, 80 (40%) were normal persons and 120 (60%) were with complications or diseases. In the admitted patients 110 (55%) were undergone normal delivery. Among different classes of drugs, antibiotics 459 (26%) are commonly prescribed medications. Totally 1467 drugs are prescribed medications in that Cefotaxim 184 (12.4%) was the commonly prescribed individual drug. Out of 200 patients, 120 were assessed for different complication and among this 35 (29.16%) patients are more with pregnancy induced hypertension followed by hypothyroidism 26 (21.66%). The drugs were administered through four different route of administration and per oral 53.51% were most commonly administered. **Conclusion:** The present study concludes that antibiotics are commonly prescribed to treat various infections as well as prophylactic therapy. Commonly polytherapy was given to treat various diseases and disorders. In the study many complications after delivery were also discussed and safe, effective drug were prescribed to treat particular complications. This study reflects a good, safe and rational medication practice during normal and cesarian delivery.

KEYWORDS: Delivery, Postnatal, Obstetrics, Gynecology.

1. INTRODUCTION

The postnatal period can be defined as the period begins immediately after giving birth to a new born for the first six weeks. For prevention of impairment and disability arises from giving birth, postnatal care is considered as a chief maternal health care services. During postnatal period both mother and new born are susceptible especially 24 hours next to delivery.^[1] Wrong prescription may lead to cause inadequate and poor treatment, long term illness, distress and suffering to the patient.^[2]

Drug prescription indications includes maintain stable vital signs, infections, Rh iso immunization, pain during delivery, vomiting, hypothyroidism, diabetes, gastritis, diarrhoea, epilepsy, cough, to stimulate uterine contraction, and also to prevent the postpartum haemorrhage.^[3] Most of the prescribing medicines account safe during lactation its adverse effects on breastfeeding infant will be less or minimal.^[4] Untimely and repeated history of childbirth, unhealthy diet, and high fertility rate can also have a role in poor maternal health condition in India.^[5]

As per World Health Organization (WHO) the rational use of drugs states that “patient having medication suitable to their condition, in doses to achieve the therapeutic goal, for an appropriate period of time, and at low marketed price”. Drugs which are inadequate, non-essential, irrelevant to diseases condition, polypharmacy, high cost, are prescribing. Outcome of irrational prescriptions are high in undeveloped areas, now that region alike having low health equipments.^[6] Postoperative utilization of drug responds to the number of occurrence of adverse effects to the number of patients exposed and suitable drug use.^[7] All disease based prescribing is not certainly based on patient requires and all patients require are not certainly met with pharmacotherapy.^[8]

Every drug has an effect on the well-being of the mother and fetus as a result drugs should be administered with care during pregnancy and after pregnancy. Majority of drugs carry into breast milk and may cause a threat to breastfed baby.^[9] Throughout delivery as well as postnatal period some antimicrobial drugs plays an important role and having these drugs can reduce mortality rate in the mothers.^[10]

Compared to vaginal birth of a fetus, caesarean section delivery decreases the risk of injury or death of a fetus but does not increase the risk of injury to the mother.^[11]

2. OBJECTIVES

Primary Objective: To describe the drug prescribed to patients admitted in postnatal ward in Obstetrics and Gynecology Department of MIMS, Mandya.

Secondary Objective: To describe the type, dose, route, indications etc. of prescribed drugs in Obstetrics and Gynecology Department.

3. MATERIALS AND METHODS

3.1 Study Site: This study was conducted at MIMS Teaching Hospital, Mandya, Karnataka. It is a 500 bedded Tertiary Care Hospital, having different specialities like medicine, surgery, orthopaedics, obstetrics and gynecology. This hospital provides specialized health care services to people in and around Mandya city and nearby villages.

3.2 Study Design: This is a record based cross-sectional study conducted on inpatients to review the current prescribing pattern of drugs in postnatal in-patients admitted in the Obstetrics and Gynecology Department.

3.3 Study Period: This study was conducted for a period of 6 months.

3.4 Research Period: 4 Months of data collection, and 2 months for data analysis and write up.

3.5 Study Sample: Prescription and case sheets of about 200 cases in a 4 months period.

3.6 Study Population: Patients admitted in Obstetrics and Gynecology Department of MIMS Teaching Hospital, Mandya.

3.7 Study Approval: Ethical clearance was obtained from the Institutional “Ethics Committee” of Mandya Institute of Medical Science Teaching Hospital, Mandya.

3.8 Study Criteria

Inclusion Criteria

- All postnatal women in PNC care unit.
- Postpartum patients with complications.
- Patients who have undergone both normal delivery as well as caesarean.

Exclusion Criteria

- Patients unwilling to give consent to the study.
- Patients in prenatal care.
- Patients discharge against medical advice.

Source of data and material: Data will be collected from patient history, diagnosis, and treatment chart of postnatal women admitted in OBG Department, MIMS Mandya.

3.9 Study Procedure: In-patients who met the study criteria were enrolled to the study for assessing prescription pattern after obtaining their written informed consent form patient/patient care taker in Obstetrics and Gynecology. The data collection form was used for collecting the details this from mainly contains demographics details, current medication; other relevant data needed for present study were collected from patient’s progress records, treatment chart.

3.10 Statistical Methods: The data were subjected to descriptive statistical analysis using Microsoft Excel. Microsoft Word and Excel have been used to generate bar graph, pie charts and tables.

4. RESULT AND DISCUSSION

This study was conducted in the Obstetrics and Gynecology Department of MIMS Teaching Hospital Mandya. A total of 200 postnatal inpatients who were admitted in the high risk antenatal care department were enrolled in the study based on study criteria. The required details from the patient case sheet were recorded in a suitably designed patient profile form (Annexure I). The patients were categorized based on age and condition. The other classifications includes commonly prescribed class of drug, individual drug used, route of administration, healthy individuals and complicated persons, those who undergone normal delivery and cesarian section based on primigravida and multigravida, based on complications.

4.1 Grouping Based On Healthy Status Wise Distribution of Postnatal Women

Out of 200 postnatal women inpatients 80 (40%) were normal/healthy and 120 (60%) were with complications/diseases (Table 1).

Table 1: Based on healthy status wise distribution of postnatal women.

Sl No.	Postnatal Women	No. of Postnatal Women	Percentage (%)
1	Normal/Healthy	80	40
2	Complicated	120	60

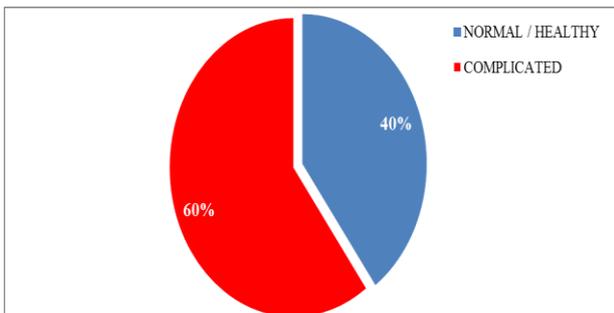


Figure 1: Based on health status-wise distribution of postnatal women.

4.2 Grouping Based On Age

Out of 200 women 96 women are of age group 20-25 (48%) are more admitted in ANC ward in OBG Department followed by 55 women of age group 26-30 (27.5%), 37 women of age group below 20 (18.5%), 10 women of age group 31-35 (5%) and 2 women of age group 36-40 (1%) (Table 2).

Table 2: Age wise categorization.

Sl No.	Age (In Years)	No. of Postnatal Women	Percentage (%)
1	Below 20	37	18.5
2	20-25	96	48
3	26-30	55	27.5
4	31-35	10	5
5	36-40	2	1

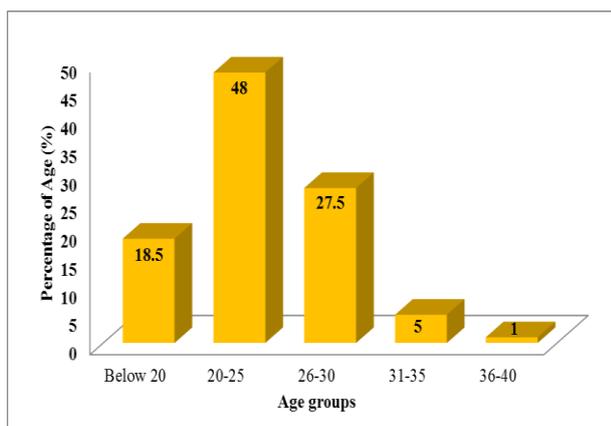


Figure 2: Age wise categorization.

4.3 Based On Mode Of Delivery

Out of 200 postnatal women delivery, among them 110 (55%) women underwent vaginal delivery and 90 (45%) women underwent caesarian section delivery (Table 3).

Table 3: Based on mode of delivery.

Sl No	Mode of Delivery	No. of Postnatal Women	Percentage (%)
1	FTND/FTVD	110	55
2	LSCS	90	45

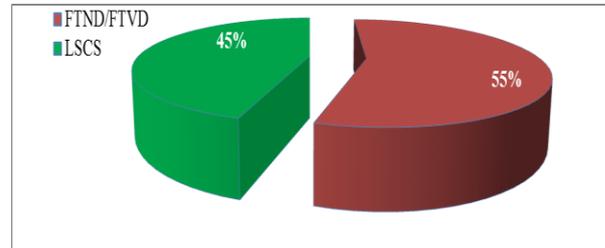


Figure 3: Based on mode of delivery.

4.4 Gravida Wise Distribution of Postnatal Women

Out of 200 patients 95 (47%) were pregnant for first belongs to primigravida and 62 (31%) were belongs to second gravida, 28 (14%) patients were third gravida, 10 (5%) were belongs to fourth gravida and 5 (2.5%) were of multi gravida (Table 4).

Table 4: Gravida wise distribution of postnatal women.

Sl No.	Gravid Wise of Distribution	No. of Postnatal Women	Percentage (%)
1	Primigravida	95	47.50
2	Second gravida	62	31.00
3	Third gravida	28	14
4	Fourth gravida	10	5
5	Multigravida	5	2.5

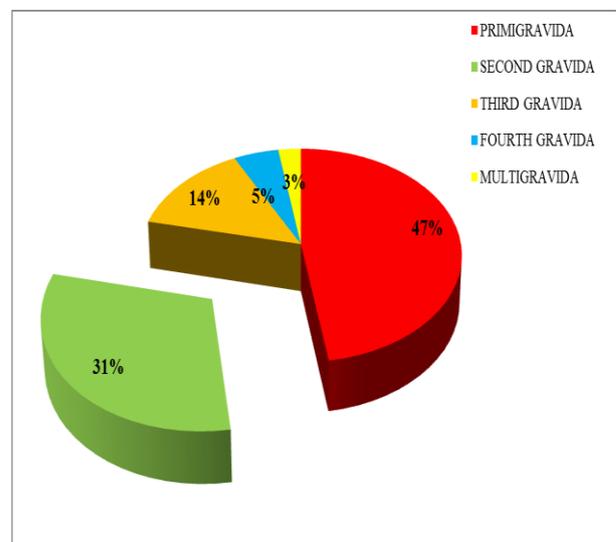


Figure 4: Gravida wise distribution of postnatal women.

4.5 Categorization of Women Based on Postpartum Anemia

Postpartum anemia is closely connected with the presence of anemia in pregnancy prior to delivery (prepartum anemia). The major causes of postpartum anemia are prepartum iron deficiency/anemia in combination with excessive blood losses at delivery. Out

of 200 postnatal women 25(12.5%) women having hemoglobin level of >12gm/dl considered to be normal range, 164(82%) women of Hb level of <10.5gm/dl were considered to be postpartum anemia, 11(5.5%) women under severe postpartum anemia of Hb level <9gm/dl (Table 5).

Table 5: Based on postpartum anemia among postnatal women.

Sl No.	Anemia	Hemoglobin Level	No. of Postnatal Women	Percentage (%)
1	Normal women	>12gm/dl	25	12.5
2	Postpartum anemia	<10.5gm/dl	164	82
3	Severe postpartum anemia	<9gm/dl	11	5.5

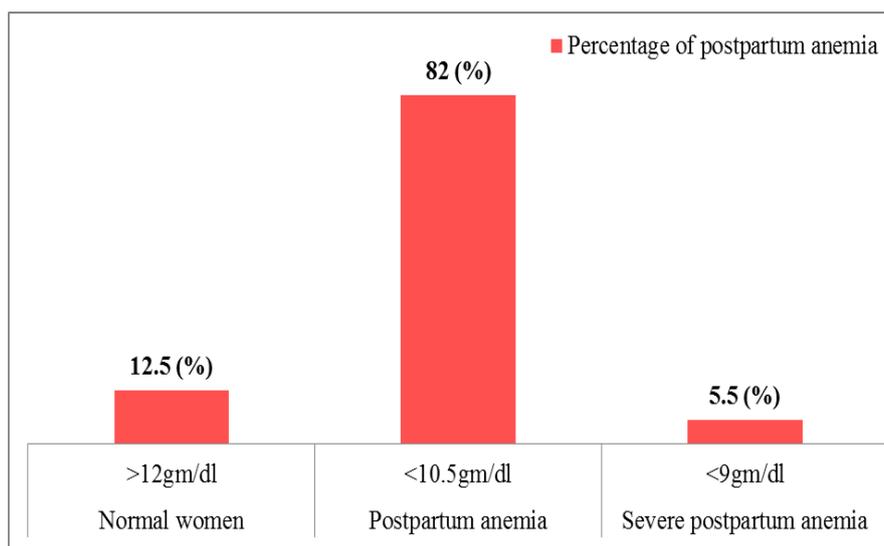


Figure 5: Based on postpartum anemia among postnatal women.

4.6 Categorization of Postnatal Women Based on Complications

Out of 200 postnatal women, 120 women were assessed for different complication and classified, out of these women, 26 (21.66%) were undergone for treatment of hypothyroidism, 35 (29.16%) were affected with PIH, 11 (9.16%) patients were under anemic condition, 9 (7.5%)

patients were affected with diabetes mellitus, 7 (5.83%) were having seizure, 6 (5%) patients were affected with oligo/polyhydromniuous, 4 (3.33%) patients were having the condition of asthma, 4 (3.33%) were having gastric enteritis, 2 (1.66%) patients affected with breech presentation, 2(1.66%) were reported with pre eclampsia, 11(12%) patients having other complications (Table 6).

Table 6: Categorization based on complications/diseases of postnatal women.

Sl No.	Complications/ Diseases	No. of Postnatal Women	Percentage (%)
1	Hypothyroidism	26	21.66
2	Pregnancy induced hypertension (PIH)	35	29.16
3	Gestational diabetes mellitus (GDM)	9	7.5
4	Breathlessness	4	3.33
5	Urinary tract infection (UTI)	4	3.33
6	Seizure	7	5.83
7	Oligo/polyhydromniuous	6	5.0
8	Breech presentation	2	1.66
9	Anemia	11	9.16
10	Pre eclampsia	2	1.66
11	Others	11	12

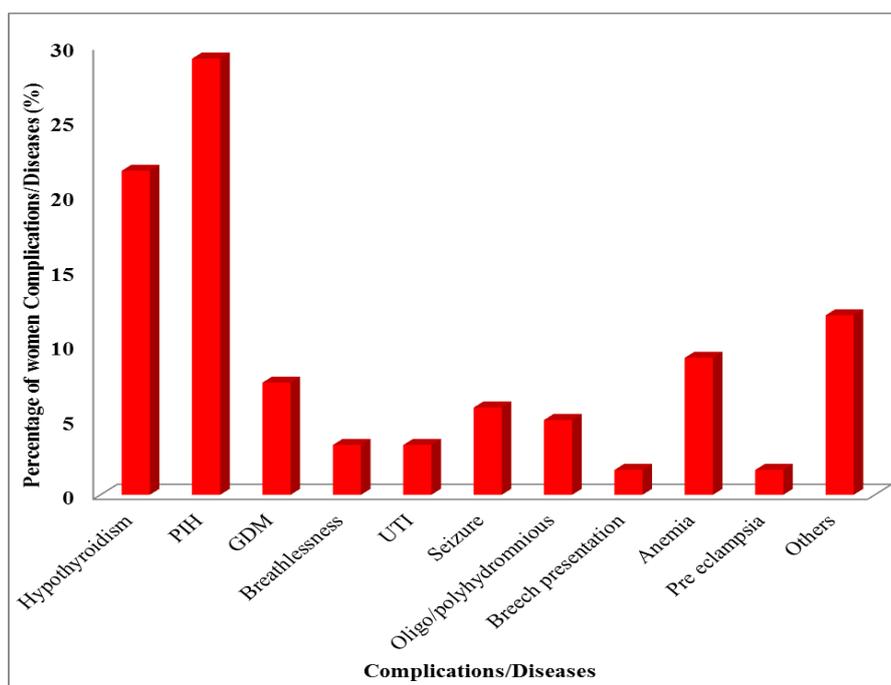


Figure 6: Categorization based on Complication/diseases of postnatal women.

4.7 Classification Based On Individual Drug

Totally 1467 drugs are prescribed among postnatal women in that Cefotaxim 184(12.4%) were the commonly prescribed individual drug, followed by Cefixime 9.15%, Metronidazole 7.66%, Amoxiclav 1.08%, Ranitidine 10.31%, Pantaprazole 4.68%, Tramadol 8.54%, Diclofenac 7.19%, Aceclofenac SP

1.15%, Paracetamol 4.67%, Labetalol 3.64%, Nifedipine 0.32%, Nicardia 0.40%, Ferrous sulphate 10.31%, Calcium 11.19%, Iron sucrose 0.67%, B. Complex 2.44%, Insulin 0.54%, Metformin 0.067%, Misoprostol 1.15%, Levipill 0.23%, Thyronorm 1.22%, Oxytocin 0.74%, Anti D 0.54% and others 0.6% (Table 7).

Table 7: Classification based on individual drug.

SI No.	Name of the Drug	Number of Drugs Prescribed	Drugs in Percentage (%)
1	Cefotaxim	184	12.4
2	Cefixime	135	9.15
3	Metronidazole	113	7.66
4	Amoxiclav	16	1.08
5	Ranitidine	152	10.31
6	Pantoprazole	69	4.68
7	Tramadol	126	8.54
8	Diclofenac	106	7.19
9	Aceclofenac SP	17	1.15
10	Paracetamol	68	4.67
11	Labetalol	40	3.64
12	Nifedipine	5	0.32
13	Nicardia	6	0.40
14	Ferrous sulphate	152	10.31
15	Calcium	165	11.19
16	Iron sucrose	10	0.67
17	B Complex	36	2.44
18	Insulin	8	0.54
19	Metformin	1	0.067
20	Misoprostol	17	1.15
21	Levipill	3	0.23
22	Thyronorm	18	1.22
23	Oxytocin	11	0.74
24	Anti D	8	0.54
25	Others	9	0.6

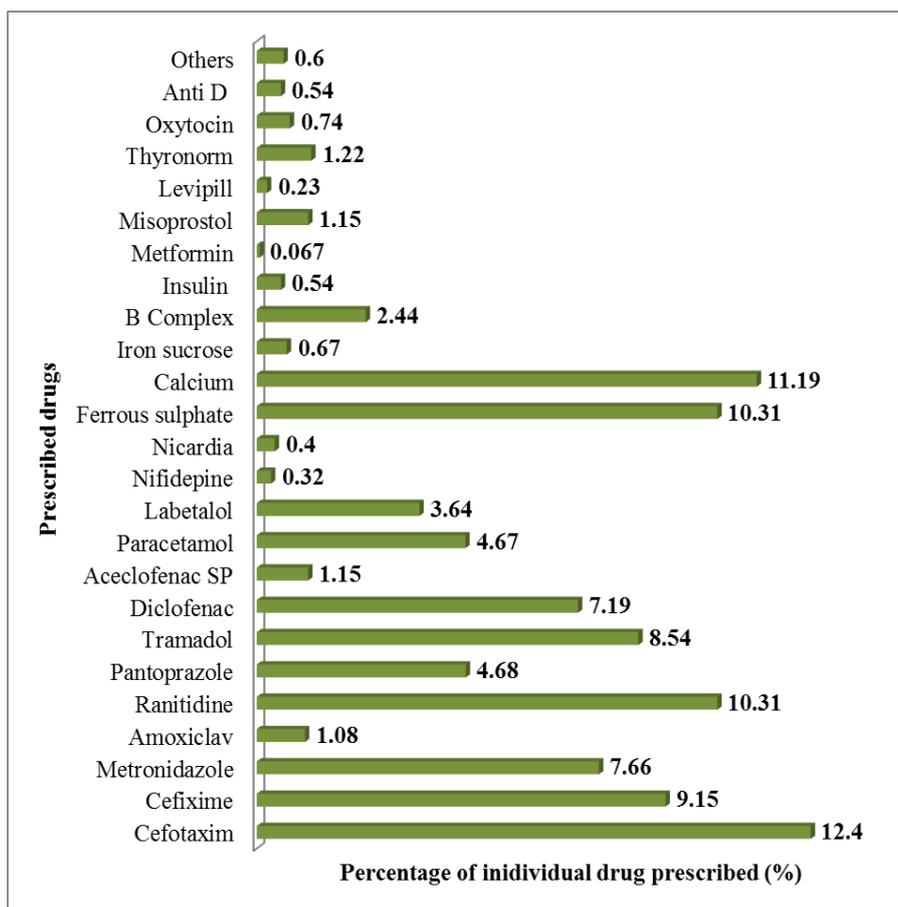


Figure 7: Classification based on individual drug.

4.8 Commonly Prescribed Drugs According To Pharmacological Class

Among the different classes of drugs, the commonly prescribed class of drug is Antibiotic 459(26%) followed by nutritional supplements 20.5%, NSAIDs 11%, Gastric

suppressants 9.5%, Anti-anemic 6.5%, Oxytocic 5%, Opioid analgesics 4%, Anti-hypertensive 3.5%, Anti-asthmatic 2%, Thyroid medication 2%, Anti-partum hemorrhage 1.5%, Antihistamines 0.6%, Anti-diabetic medication 0.5%, Antiepileptic 0.5%, Rh –ve pregnancy 0.4%, Others 3% (Table 8).

Table 8: Percentage of prescribed drug according to pharmacological class.

Sl No.	Class of Drug	Number of Drugs Prescribed	Percentage of Drugs (%)
1	Antibiotics	459	26
2	Nutritional supplements	363	20.5
3	NSAIDS	188	11
4	Gastric suppressants	162	9.5
5	Anti-anemic	117	6.5
6	Oxytocic	93	5
7	Opioid analgesics	67	4
8	Anti-hypertensive	62	3.5
9	Anti-asthmatic	36	2
10	Thyroid medication	34	2
11	Anti-partum hemorrhage	31	1.5
12	Anti-histamines	10	0.6
13	Anti-diabetic mellitus	9	0.5
14	Anti-epileptic	8	0.5
15	Rh –ve pregnancy	7	0.4
16	Others	48	3

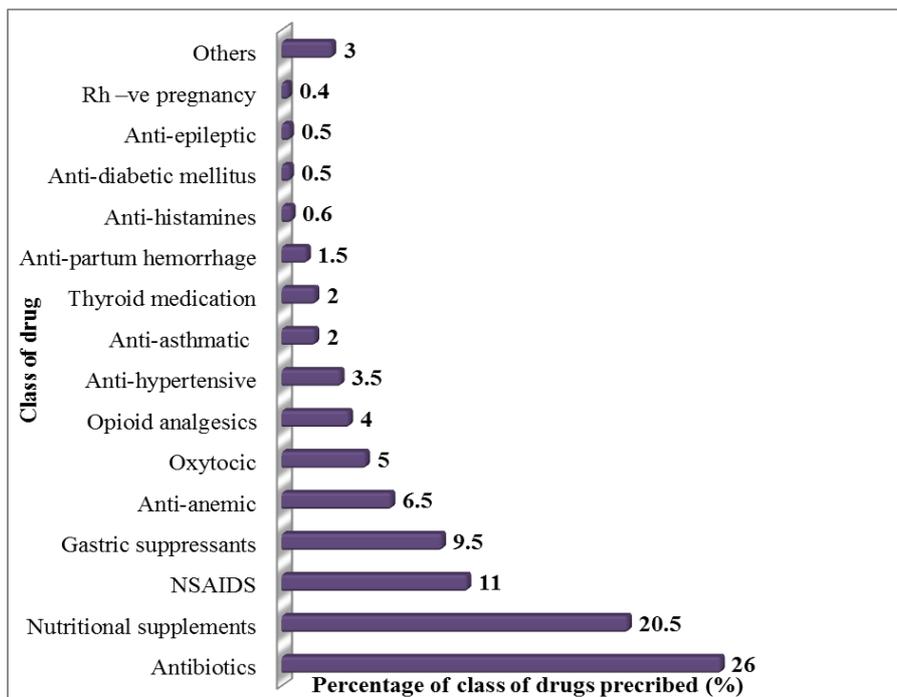


Figure 8: Percentage of prescribed drug according to pharmacological class.

4.9 Classification of Drugs Based on Route of Administration

In the patients, the most frequently used route for drug administration were per oral 53.51%, followed by Intra

venous route 32.10%, Intra muscular 13.84% and subcutaneous 0.53% (Table 9).

Table 9: Classification of drugs based on route of administration.

SI No.	Route of Administration	Number of Drugs	Percentage of Drugs (%)
1	Intravenous	603	32.10
2	Intramuscular	260	13.84
3	Per oral	1005	53.51
4	Subcutaneous	10	0.532

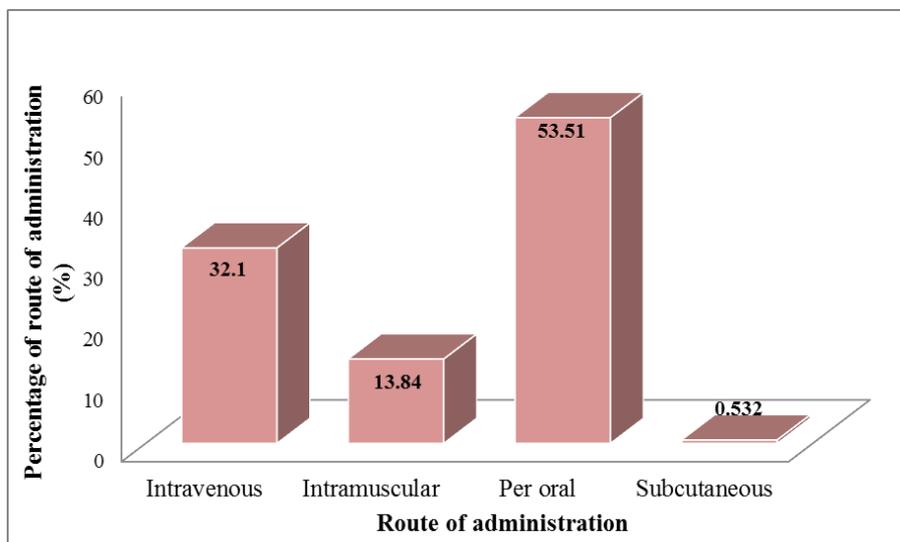


Figure 9: Based on route of administration.

5. DISCUSSION

A cross sectional study was conducted to study the prescribing pattern of drugs among postnatal inpatients in Obstetrics and Gynecology Department of Mandya

Institute of Medical Sciences and Teaching Hospital, Mandya. A total of 200 postnatal women inpatients who are admitted in OBG department in Mandya Institute of Medical Sciences and Teaching Hospital were enrolled

in the study based on the study criteria. The required details from the patient case sheet were recorded in a suitably designed patient profile form.

The prescription data of 200 women were analysed in the current study. Among the cases, 80 (40%) were normal women and 120 (60%) were with complications or diseased women. Out of 200 women, 96 patients are of age group 20-25 (48%) are more admitted in OBG department. In the admitted postnatal women 110 (55%) were underwent normal delivery. Among the postnatal women 95(45.50%) were pregnant for first time belongs to primigravida. Out of 200 women, 120 were assessed for different complication and among this 35(29.16%) women are more with pregnancy induced hypertension followed by hypothyroidism 26(21.66%). The commonly prescribed class of drug is antibiotics 459(26%). Totally 1467 drugs are prescribed in that cefotaxim 184 (12.4%) was the commonly prescribed individual drug .The drugs were administered through four different route of administration and per oral 53.51% were most commonly administered route.

6. CONCLUSION

A study on prescribing pattern of drug among postnatal inpatients in Obstetrics and Gynecology Department of a government tertiary care hospital conducted in MIMS Teaching Hospital, Mandya was a cross sectional study. A well designed patient data collection form was used for collecting the details. It comprised of patients demographic details, diagnosis and treatment.

From the present study it is concluded that antibiotics are commonly prescribed to treat various infections as well as prophylactic therapy. Mainly drugs like oxytocin and ergometrine combination were used during or immediately after the delivery of a baby to help the birth and to prevent or treat excessive bleeding.

This study reflects a good, safe, and rational medication practice during both normal delivery and cesarian section. Commonly polytherapy was given to treat various diseases and disorders. In this study many complications after delivery were also discussed and safe, effective drug were prescribed to treat particular complications.

Educational interventions are required to promote rational use of drugs and awareness of deleterious impact of irrational prescribing habit on the community and all members of the health care system are needed.

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CONFLICT OF INTEREST: The authors declared no conflict of interest.

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